

Remarks:

This is in response to an official action dated December 20, 2000. Reconsideration in view of the following is respectfully submitted.

A request for a two-month extension is respectfully submitted herewith, together with a Continuing Prosecution Application.

Claim 1 has been amended to recite the enzyme component in the lysis/buffer system, as previously set forth in claim 6. Accordingly, only the rejection covering former claim 6 will be addressed, the other rejections now being moot.

The examiner rejects claims 1-7, 9 and 27-29 under 35 U.S.C. 103(a) as being obvious in view of the Anderson, Cleuziat, Nochumson, and Gonsalves references. Anderson teaches an isolated cDNA that encodes TIA-1 binding proteins. Cleuziat discloses a method for amplifying nucleic acid sequences by strand displacement using DNA/RNA chimeric primers. Nochumson teaches a method for separating and recovering desired biological substances from liquids containing such substances. As to the

rejection based upon Anderson and Cleuziat, it is inaccurate to combine the two references to obtain the instant invention because both references are directed toward two different types of goals. While Anderson is directed toward the isolation of a target nucleic acid, Cleuziat addresses the *amplification of the* target nucleic acid. Cleuziat must be performed subsequent to that method taught in Anderson, wherein the sequences must initially be isolated in order to find the targeted sequences. See Cleuziat, col. 8, lines 6-66. It is not obvious to someone reasonably skilled in the art to combine two references that address two different goals.

Furthermore, Anderson also requires the use of phenol, chloroform and alcohol to isolate DNA. See col. 15, lines 25-6. In contrast, the instant invention does not employ the aforementioned chemicals for binding DNA. Thus, even if someone reasonably skilled in the art combined Anderson and Cleuziat, that individual would necessarily use a solid substrate in combination with the phenol, chloroform and alcohol to isolate the DNA. However, the result is unpredictable when using a solid substrate in the absence of the phenol, chloroform, and alcohol to isolate DNA based upon the references. As the instant invention shows, the

nucleic acid can be isolated without the use of the aforementioned chemicals. Hence, the use of a solid substrate is not obvious in view of these two references.

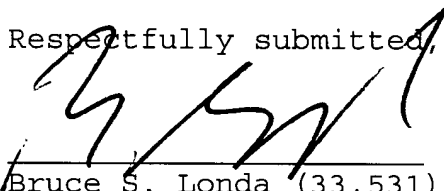
As to the Nochumson reference, Nochumson discloses *chaotropic* salts for binding to nucleic acids. See col. 12, lines 14-15. Chaotropic salts are characterized by denaturing proteins, increasing the solubility of non-polar substances in water and destroying hydrophobic interactions. However, the instant invention discloses *antichaotropic* salts to bind the DNA. In addition, the antichaotropic salts show a surprising result in their effectiveness to bind DNA. See e.g., Figs. 4 and 5 in the specification. Moreover, the buffer in Nochumson keeps the DNA bound to the solid substrate. See col. 12, lines 34-37. In contrast, the buffer in the instant invention elutes the DNA away from the solid substrate. See specification at page 6, lines 25-30. Thus, a combination of the aforementioned references would lead to an inaccurate representation of the instant invention, because the prior art does not contemplate the antichaotropic elements disclosed in the instant invention to bind DNA.

Gonsalves teaches a DNA molecule that encodes for a protein or polypeptide coat of a grapevine leafroll virus. It is improper to combine the references to obtain the instant invention, because the effect of using proteinase K is unknown in the presence of a buffer having *antichaotropic* components. Applicant has surprisingly found that the antichaotropic buffer solution mediates the binding of DNA, and stabilizes the protein and enzymes acting proteolytically. In contrast, a chaotropic buffer in the presence of the nucleic acid and the proteolytic enzymes in the starting material would be expected to denature the enzymes, thereby destroying their utility.

Therefore, amended claim 1 (and dependent claims) is not obvious over the cited references.

Wherefore, allowance of all pending claims is earnestly solicited.

Respectfully submitted,



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